

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/030968

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F15B1/04 F15B21/04 F17C13/02 F17C13/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F15B F17C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 791 766 A (KIKUTSUGI A ET AL) 12 February 1974 (1974-02-12) the whole document	1,10,11
X	DE 100 41 131 A (GEESTHACHT GKSS FORSCHUNG ; ANDERS DIETRICH (DE)) 21 March 2002 (2002-03-21) the whole document	1,2,6,7
X	EP 0 047 336 A (OLSSON LARS UNO) 17 March 1982 (1982-03-17) page 3, line 16 - line 24 page 4, line 18 - line 23 page 5, line 24 - page 7, line 30	1,2,6,7, 10,11
Y		3-5,8,9, 20
	----- -/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

13 July 2005

Date of mailing of the international search report

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Nicol, B

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/030968

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 893 995 A (WATERS STEVE W) 13 April 1999 (1999-04-13) the whole document -----	3-5
Y	DE 553 586 C (BOCHUMER EISEN HEINTZMANN; HEINRICH TOUSSAINT) 28 June 1932 (1932-06-28) the whole document -----	8,9,20
X	DE 12 80 507 B (KRUPP GMBH) 17 October 1968 (1968-10-17) the whole document -----	1,2
A	US 6 158 234 A (SZUTU HUI JEN) 12 December 2000 (2000-12-12) -----	
A	US 6 029 741 A (SANO YOSHIHIRO ET AL) 29 February 2000 (2000-02-29) -----	
X	US 2003/070434 A1 (SHIMADA TOSHIKI ET AL) 17 April 2003 (2003-04-17) the whole document -----	12-18, 21-23,25
A	-----	19,24
X	US 6 433 316 B1 (SIGETY JAMES ET AL) 13 August 2002 (2002-08-13) the whole document -----	12
X	US 2 595 685 A (MALLORY ROBERT E) 6 May 1952 (1952-05-06) the whole document -----	12
X	DE 197 11 841 A1 (FICK, PETER, 89077 ULM, DE) 10 December 1998 (1998-12-10) the whole document -----	26-33
X	US 5 494 083 A (ELMORE ET AL) 27 February 1996 (1996-02-27) the whole document -----	26-33

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/030968

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 3791766	A	12-02-1974	JP 47010902 U	09-10-1972
			DE 2207678 A1	14-09-1972
			GB 1329395 A	05-09-1973
			SE 372599 B	23-12-1974
DE 10041131	A	21-03-2002	DE 10041131 A1	21-03-2002
EP 0047336	A	17-03-1982	EP 0047336 A1	17-03-1982
US 5893995	A	13-04-1999	NONE	
DE 553586	C	28-06-1932	NONE	
DE 1280507	B	17-10-1968	NONE	
US 6158234	A	12-12-2000	NONE	
US 6029741	A	29-02-2000	JP 11166697 A	22-06-1999
US 2003070434	A1	17-04-2003	JP 2003120900 A	23-04-2003
US 6433316	B1	13-08-2002	NONE	
US 2595685	A	06-05-1952	NONE	
DE 19711841	A1	10-12-1998	NONE	
US 5494083	A	27-02-1996	NONE	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2004/030968

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-11,20

A pressure vessel assembly for a pressurized fluid system, said pressure vessel assembly comprising an enclosed outer casing, at least one fluid accumulator disposed within said outer casing, and at least one cooling passage provided adjacent to said at least one fluid accumulator for receiving a flow of a cooling fluid therethrough for cooling said at least one fluid accumulator.

2. claims: 12-19,21-25

A pressure vessel assembly for a pressurized fluid system, said pressure vessel comprising an enclosed outer casing, at least one internal tube extending within said outer casing, and at least one fluid accumulator disposed within said at least one internal tube.

3. claims: 26-33

A pressure vessel assembly for a pressurized fluid system, said pressure vessel assembly comprising an enclosed outer casing, at least one fluid accumulator disposed within said outer casing, a compartment within said pressure vessel assembly between said outer casing and said at least one fluid accumulator, said compartment at least partially filled with a working fluid, and said compartment being in fluid communication with said at least one fluid accumulator so as to selectively transfer said working fluid between said compartment and said at least one fluid accumulator, and a pressurized gas reservoir external to said outer casing, said pressurized gas reservoir being in fluid communication with said compartment within said outer casing for pressurizing said working fluid within said compartment in said outer casing.
